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LISA A. HAILE, J.D., PH.D. GRAY CARY WARE AND FREIDENRICH, LLP 4365 EXECUTIVE DRIVE SUITE 1100 SAN DEIGO, CA 92121-2133			STEADMAN, DAVID J	
			ART UNIT	PAPER NUMBER
			1652	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/876,276

Applicant(s)

SHORT ET AL.

Examiner

David J Steadman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-41 and 43-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-41 and 43-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Status of the Application

- [1] Claims 19-41 and 43-46 are pending in the application.
- [2] Applicants' amendment to the claims, filed July 19, 2004, is acknowledged. This listing of the claims replaces all prior versions and listings of the claims.
- [3] Applicant's arguments filed July 19, 2004 have been fully considered and are deemed to be persuasive to overcome some of the rejections previously applied. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.
- [4] The text of those sections of Title 35, U.S. Code not included in the instant action can be found in a prior Office action.

Claim Rejections - 35 USC § 112, Second Paragraph

- [5] In view of applicants' amendment to claim 41, the rejection under 35 U.S.C. 112, second paragraph, as set forth in item [8] of the Office action mailed April 16, 2004 is withdrawn.
- [6] It should be noted that applicants' response filed July 19, 2004 fails to respond to the rejection set forth at item [8] of the Office action mailed April 16, 2004. MPEP 714.03 states, "[w]here an amendment substantially responds to the rejections, objections, or requirements in a non-final Office action (and is a bona fide attempt to advance the application to final action) but contains a minor deficiency (e.g., fails to treat every rejection, objection, or requirement), the examiner may simply act on the

amendment and issue a new (non-final or final) Office action. In this case, applicants' amendment to claim 41 is considered to be responsive to the rejection as the amendment overcomes the rejection under 35 USC 112, second paragraph.

[7] Claims 19-41 and 43-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

[a] Claim 19 (claims 20-41 and 43-46 dependent therefrom) is unclear in the recitation of "normalizing the representation of organisms." The specification fails to define the term "normalizing" and it is unclear from the claims as to the clear meaning of the term. It is noted that the specification states "[t]his 'normalization' approach reduces the redundancy of clones from abundant species and increases the representation of clones from rare species" (p. 24 of the specification). However, applicants' argument presents an implied meaning which is much narrower in scope than that provided in the specification. It would appear that, based on applicants' arguments, the intended meaning of the term "normalizing" is to change the abundance of species present in the sample resulting in equal representation of the organisms in the sample (see p. 8 of the response filed July 19, 2004). As such, it is unclear as to applicants' intended meaning of the term "normalizing the representation of organisms." MPEP 2111 directs the examiner to give claims their broadest reasonable interpretation in light of the specification. As such, the term has been interpreted in light of the specification as reducing the redundancy of clones from abundant species and increasing the

representation of clones from rare species, in accordance with the "definition" provided in the specification.

[b] Claim 19 (claims 20-41 and 43-46 dependent therefrom) is indefinite as being incomplete as claim 19, part a), *i.e.*, "normalizing the representation of organisms present in a sample containing naturally occurring DNA from more than one organism to increase representation of rare species," lists no method steps for carrying out the "normalizing." It is suggested that applicants clarify the meaning of the claim.

[c] Claim 19 (claims 20-41 and 43-46 dependent therefrom) is incomplete. In view of the definition of "bioactive substrate," *i.e.*, "[s]ubstrates upon which enzymes act" (p. 3 of the specification), the method of claim 19 is incomplete as a step for expressing an enzyme from the normalized DNA in each clone is necessary for the "bioactive substrate that is fluorescent in the presence of the bioactivity or biomolecule of interest" to enzymatically generate bioactive fluorescence. In the absence of such a method step, it is unclear as to how the bioactive fluorescence is generated for clone identification. It is suggested that applicants clarify the meaning of the claim.

[d] Claim 19 (claims 20-41 and 43-46 dependent therefrom) is indefinite in the recitation of "naturally occurring DNA" as it is unclear as to the scope of DNAs that are intended as being "naturally occurring," particularly in view of applicants' argument as set forth in the response filed July 19, 2004. In the instant response, applicants state, "DNA existing in the genome... ..altered by a mutagen while in the natural setting... ..is still... .."naturally occurring" (p. 6, bottom). One of skill in the art recognizes that microorganisms having a genome that is altered by a mutagen – even in a natural

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setting – are considered to be mutants and mutant microorganisms are not considered to be naturally occurring. For example, if a bacterium is exposed to a mutagen in a soil sample, which resulted in alteration of the DNA sequence of the bacterial genome, one of skill in the art would not consider such a bacterium to comprise DNA that is “naturally occurring,” even though that DNA is prokaryotic genomic DNA. Based upon applicants’ arguments addressing the reference of Thompson et al., it would appear that applicants intend for DNA that is “without manipulation” and/or that has not been recombined (see p. 8 of the response filed February 09, 2004) to be “naturally occurring.” However, one of skill in the art recognizes that genomic DNA that is cloned into a vector for purposes of creating a recombinant genomic DNA library has been manipulated, thus the term “recombinant.” In view of applicants’ failure to present a clear meaning of the term “naturally occurring,” it is unclear to the examiner as to applicants’ intended meaning of the term. Applicants are requested to clarify the scope of DNAs that are intended to be encompassed by the term “naturally occurring.”

[e] Claim 40 is confusing in the recitation of “a clone identified in step c)” as there is no step of identifying clones in step c) of claim 19. It is suggested that applicants clarify the meaning of the claim.

Claim Rejections - 35 USC § 112, First Paragraph

[8] Claims 19-41 and 43-46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably

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convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

Claim 19 (claims 20-41 and 43-46 dependent therefrom) recites the term “naturally-occurring” and the examiner can find no support for this term in the specification, claims, or drawings as originally filed. It is noted that this rejection was previously raised in the Office action mailed October 09, 2003. While the rejection was maintained in a subsequent Office action (see item [9] of the Office action mailed April 16, 2004, the examiner inadvertently omitted claim 19 and claims dependent therefrom from the rejection. As such, the rejection is re-instated for the reasons of record and for the reasons stated below.

[9] RESPONSE TO ARGUMENTS: Previously, applicants argued that support for “naturally occurring” could be found in original claim 1 by the recitation of “prokaryotic genomic DNA samples” and argued that genomic DNA samples are by definition “naturally occurring.” Applicants further argued that support for “naturally occurring” could be found in the disclosure of “[p]referably ‘environmental libraries’ which represent the collective genomes of naturally occurring microorganisms are generated” (citing pages 7, 17, and 22 of the specification). In response, the examiner took the position that “prokaryotic genomic DNA samples” did not provide support for the term “naturally occurring,” arguing that the “naturally occurring” DNAs encompassed by the claim are not limited to those DNAs that are prokaryotic or genomic DNA.

In the instant response, applicants argue the dictionary meaning of “naturally occurring” is “as found in nature” and that DNA altered by a mutagen in a natural setting

is still "genomic DNA" for that organism and is still "naturally occurring," or unaltered by the hand of man. Applicants argue that the passage from page 22 of the specification makes it clear that applicants describe "naturally occurring" DNA as coming from either prokaryotic or eukaryotic organisms. Applicants' argument is not found persuasive.

In the instant case, the term "naturally occurring DNA" encompasses DNAs that are prokaryotic and eukaryotic, *e.g.*, human genomic DNA, and DNAs that are genomic and non-genomic, *e.g.*, cDNAs. Thus, the term "prokaryotic genomic DNA samples" does not provide support for the term "naturally occurring" with respect to DNA. Applicants' citation of page 22 of the specification as allegedly providing support for the term "naturally occurring" encompassing eukaryotic and prokaryotic DNA is acknowledged. However, this disclosure provides support only for "lower eukaryotic microorganisms" and does not provide support for all eukaryotic organisms.

[10] The new matter rejection of claims 19-41 and 43-46 under 35 U.S.C. 112, first paragraph, is maintained for the reasons of record (as set forth in item [10] of the Office action mailed April 16, 2004) and for the reasons stated below.

[11] RESPONSE TO ARGUMENTS: Applicants argue support for the limitation "wherein each clone contains DNA from a single organism" can be found in the specification at page 23, second paragraph; page 24, second paragraph; page 25, lines 9-13; and page 36, third paragraph. However, after review of applicants' cited support, the examiner is unable to find support for the limitation stated above. It is suggested that applicants provide the specific text of the disclosure that allegedly provides support for the limitation stated above.

Claim Rejections - 35 USC § 102

[12] The rejection of claims 19-20, 22, 24-29, 35, 37-39, and 43-45 under 35 U.S.C. 102(b) as being anticipated by Thompson et al. (US Patent 5,824,485) is maintained for the reasons of record (as set forth in item [11] of the Office action mailed April 16, 2004) and for the reasons stated below.

[13] RESPONSE TO ARGUMENTS: Applicants argue the claimed methods distinguish over Thompson et al. by requiring normalization and contacting a fluorescent bioactive substrate with a library of clones. Applicants further argue that the method of Thompson et al. does not screen naturally occurring DNA. Applicants' argument is not found persuasive.

In response to applicants' argument that Thompson et al. do not require normalization, while the specification fails to provide a specific definition of the term "normalizing" as recited in the claim, the specification states, "[t]his 'normalization' approach reduces the redundancy of clones from abundant species and increases the representation of clones from rare species" (p. 24 of the specification). Thompson et al. teach a method for increasing the representation of non-ribosomal RNA sequences prior to producing the genomic DNA library of clones such that the predominant ribosomal RNA sequences are purified away from the less abundant non-ribosomal sequences (column 40, bottom). In this way, the abundant ribosomal RNA is reduced, thus increasing the representation of the remaining non-ribosomal sequences. In this way, the method of Thompson et al. increases representation of the relatively rare

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species of non-ribosomal RNA, which is subsequently reverse-transcribed into DNA for creation of a library.

In response to applicants' argument that Thompson et al. do not require contacting a fluorescent bioactive substrate with a library of clones, Thompson et al. clearly suggest such a contacting step, e.g., Thompson et al. teach that a probe that can be used to screen cells of the library can be "an enzyme substrate linked to a fluorogenic agent" (column 36, lines 66-67), which when acted upon by the enzyme, generates a fluorescent product (column 37, top), and provide examples of such (column 36, bottom and column 37, top).

In response to applicants' argument that the method of Thompson et al. does not screen naturally occurring DNA, it is noted that, particularly in view of applicants' arguments, it is unclear to the examiner as to applicants' intended scope of DNAs that are considered to be "naturally occurring" as stated above. Nonetheless, it is the examiner's position that Thompson et al. teach the use of "naturally occurring" DNA at least for those reasons stated in a previous Office action and reiterated herein. The nucleic acids used to construct the library screened by the method of Thompson et al. clearly encompass host cells comprising naturally occurring DNA obtained from a mixed population of organisms, wherein each host cell has DNA from one donor organism. For example, Thompson et al. describe their library as being "a library of expression constructs prepared from genetic material derived from a plurality of species of donor organisms." Thompson et al. teach that "[t]he genetic material in each of the host organism encodes naturally-occurring biochemical pathways... ..from one of the donor

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organisms" (column 6, lines 17-27). At least from this description of their library, one of ordinary skill in the art would recognize that: 1) the library of Thompson et al. contains clones containing naturally occurring DNA from a single donor organism, i.e., DNA that has not been manipulated, and 2) each host organism contains DNA from one, i.e., a single, donor organism. Contrary to applicants' assertion, the examiner has not relied upon the quoted text of Thompson et al. (column 15, top) for defining the term "naturally occurring" as used by Thompson et al. Instead, this text was relied upon by the examiner as evidence that the reference of Thompson et al. teaches that their library encompasses clones comprising DNA from more than one organism (see page 8 of the Office action mailed October 09, 2003). In this case, applicants have misinterpreted the disclosure of Thompson et al., allegedly suggesting combination of host DNA and donor DNA. While applicants attempt to define "combinatorial" in such a way as to overcome the cited prior art by relying on Exhibits A, B, and C, it is clear that the term "combinatorial" as used by Thompson et al. is not meant to be defined as a physical combining of DNAs. Nowhere in this citation is there mention of the combining of DNAs from the host and donor organisms. Instead, this disclosure (column 5, paragraph 1) suggests that the metabolic pathways of the donor can be "reconstituted" in the host, i.e., the donor metabolic pathway present in the host. As the metabolic pathway of the donor organism may not be present in the host, the interaction or combination of these pathways may generate novel compounds. As such, Thompson et al. is clearly teaching the interaction or combination of metabolic pathways – not the combining of DNAs as asserted by applicants. MPEP 2106 states, "An applicant is entitled to be his or her own

lexicographer, and in many instances will provide an explicit definition for certain terms used in the claims” and “[w]here an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim”. Applicants are referred to the definition of “combinatorial natural pathway expression library” in the reference of Thompson et al. (column 6, lines 17-27). Thompson et al. make clear that the donor DNA contained by the host organism “encodes naturally-occurring biochemical pathways” – not mutant or variant biochemical pathways as asserted by applicants. It should be noted that the “plurality of clones containing naturally occurring DNA from more than one organism, wherein each clone contains DNA from a single organism” as recited in claim 19 are also likely to express metabolic enzymes from the donor DNA that can combine with the host metabolic pathways – exactly as taught by Thompson et al. In view of applicants’ failure to distinguish the claimed invention from the method as taught by Thompson et al., the rejection is maintained.

Claim Rejections - 35 USC § 103

[14] The rejection of claim 23 under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. is maintained for the reasons of record as set forth at item [12] of the Office action mailed April 16, 2004 and for the reasons stated below.

[15] RESPONSE TO ARGUMENTS: Applicants argue Thompson et al. does not teach all limitations of the claim (citing their argument addressing the rejection under 35 USC 102(b)) as claim 23 depends from claim 19. Applicants argue Thompson et al. fail

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to motivate one to modify Thompson et al. to arrive at the claimed invention because Thompson et al. is allegedly devoted to preparation and screening of combinatorial gene libraries. Applicants argue the combination of references does not teach or motivate a skilled artisan to "normalize" the representation of organisms and further argue that the disclosure of "reconstituted metabolic pathways" does not suggest and would not motivate one to look to the DNA of a single donor organism for detection of a "naturally occurring" biomolecule or bioactivity of interest. Applicants' argument is not found persuasive.

The examiner hereby incorporates the response addressing applicants' arguments regarding the rejection under 35 USC 102(b). As stated therein, Thompson et al. teaches increasing the abundance of relatively rare species (column 40, bottom) and the use of naturally occurring DNA from "one of the donor organisms" (column 6, lines 17-27). For these reasons, it is the examiner's position that Thompson et al. teach all limitations of claim 19, from which claim 23 is dependent upon. While Thompson et al. do not teach the use of at least 2×10^6 clones to practice their method, one would have been motivated to use at least this many clones in order that the statistical probability of identifying a clone comprising an activity of interest would be substantially increased. In view of the teachings of Thompson et al., claim 23 would have been obvious to one of ordinary skill in the art at the time of the invention.

[16] The rejection of claims 30-32 and 34 under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. in view of Miao et al. (Biotechnol Bioengineer

42:708-715) is maintained for the reasons of record (as set forth in item [13] of the Office action mailed April 16, 2004) and for the reasons stated below.

[17] RESPONSE TO ARGUMENTS: Applicants argue Thompson et al. does not teach all limitations of the claim (citing their arguments addressing the rejection under 35 USC 102(b) and 35 USC 103(a) as being unpatentable over Thompson et al.) Applicants argue that, in addition to those previous arguments, Miao et al. fails to remedy the alleged deficiencies of Thompson et al. Applicants argue Miao et al. are silent regarding screening a library containing a plurality of clones obtained from one or more organisms wherein each clone contains DNA from one organism in the multispecies population. Applicants argue the combination of references does not teach or motivate a skilled artisan to "normalize" the representation of organisms. Applicants argue that even if one were motivated to combine the cited references, there is no reasonable expectation of success for adapting the technique of Miao et al. to the method of Thompson et al. Applicant's argument is not found persuasive.

The examiner hereby incorporates the response addressing applicants' arguments regarding the rejection under 35 USC 102(b). For these reasons, it is the examiner's position that Thompson et al. teach all limitations of claim 19, from which claims 30-32 and 34 are dependent upon. Regarding normalization, Thompson et al. teach increasing the abundance of relatively rare species (column 40, bottom), which is in accordance with the "definition" of normalization as provided in the specification. Based on the motivation for using C12FDG as a fluorogenic substrate to detect those clones expressing beta-galactosidase by FACS, i.e., to prevent substrate leakage (page

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708, right column), one would have been motivated to use the substrate of Miao et al. to practice the method of Thompson et al. As Miao et al. demonstrate the use of their substrate in screening a large number of clones, one would have had a reasonable expectation of success for using the substrate of Miao et al. in practicing the method of Thompson et al. In view of applicants' failure to provide specific and/or convincing reasoning as to why the combination of references fails to teach, provide motivation for practicing, and a reasonable expectation of success for making the claimed invention, the rejection is maintained.

[18] The rejection of claim 33 under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. in view of Miao et al. as applied to claims 30-32 and 34 above, and further in view of Hirata et al. (US Patent 4,861,718) is maintained for the reasons of record (as set forth in item [14] of the Office action mailed April 16, 2004) and for the reasons stated below.

[19] RESPONSE TO ARGUMENTS: Applicants argue Thompson et al. in view of Miao et al. does not render obvious claims 19 and 32 from which claim 33 is dependent upon (citing their arguments addressing the rejection under 35 USC 102(b) and 35 USC 103(a) as being unpatentable over Thompson et al. in view of Miao et al.) Applicants argue Hirata et al. fail to remedy the alleged deficiencies of Thompson et al. and Miao et al. and Hirata et al. are silent regarding screening a library containing a plurality of clones obtained from one or more organisms wherein each clone contains DNA from a single one of the donor organisms. Applicants argue that the cited references fail to motivate one to modify the combined disclosures to arrive at such a method at any

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temperature. Applicants argue the combination of references does not teach or motivate a skilled artisan to “normalize” the representation of organisms. Applicants argue that even if one were motivated to combine the cited references, there is no reasonable expectation of success for practicing the claimed method. Applicants’ argument is not found persuasive.

The examiner hereby incorporates the response addressing applicants’ arguments regarding the rejection under 35 USC 102(b) and to the rejection of claims 30-32 and 34 under 35 USC 103(a). For these reasons, it is the examiner’s position that Thompson et al. in view of Miao et al. teach all limitations of claims 19 and 32, from which claim 33 depends. Regarding normalization, Thompson et al. teach increasing the abundance of relatively rare species (column 40, bottom), which is in accordance with the “definition” of normalization as provided in the specification. As previously stated, the combination of references clearly teaches all limitations of the claims and, contrary to applicants’ assertion, provides a reasonable expectation of success for practicing the claimed method. In view of applicants’ failure to provide specific and/or convincing reasoning as to why the combination of references fails to teach, provide motivation for practicing, and a reasonable expectation of success for making the claimed invention, the rejection is maintained.

[20] The rejection of claims 21, 36, 40, and 46 under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. in view of Minshull et al. (US Patent 5,837,458) is maintained for the reasons of record (as set forth in item [15] of the Office action mailed April 16, 2004) and for the reasons stated below.

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[21] RESPONSE TO ARGUMENTS: Applicants incorporate their arguments regarding the rejection of claims 19-20 under 35 USC 103(a) addressing the reference of Thompson et al. Applicants argue the combination of references does not teach or motivate a skilled artisan to “normalize” the representation of organisms. Additionally, applicants argue Minshull et al. fails to remedy the alleged deficiencies of Thompson and the combined disclosures of Thompson et al. and Minshull et al. are silent regarding screening a library containing a plurality of clones obtained from one or more organisms wherein each clone contains DNA from a single one of the donor organisms. Applicants argue that the cited references fail to teach the claim limitations. Applicants argue that even if one were motivated to combine the cited references, there is no reasonable expectation of success for practicing the claimed method. Applicants’ argument is not found persuasive.

The examiner hereby incorporates the response addressing applicants’ arguments regarding the rejection under 35 USC 102(b), which includes claims 19-20. For these reasons, it is the examiner’s position that Thompson et al. teaches all limitations of claims 19-20, from which claims 21, 36, 40, and 46 depend – particularly as Thompson et al. teach increasing the abundance of relatively rare species (column 40, bottom), which is in accordance with the “definition” of normalization as provided in the specification. As previously stated, the combination of references clearly teaches all limitations of the claims and, contrary to applicants’ assertion, provides a reasonable expectation of success for practicing the claimed method. In view of applicants’ failure to provide specific and/or convincing reasoning as to why the combination of references

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fails to teach, provide motivation for practicing, and a reasonable expectation of success for making the claimed invention, the rejection is maintained.

[22] The rejection of claim 41 under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. in view of Minshull et al. (US Patent 5,837,458) as applied to claims 21, 36, 40, and 46 above, and further in view of Loveland et al. (Appl Environ Microbiol 60 :12-18) is maintained for the reasons of record as set forth at item [16] of the Office action mailed April 16, 2004 and for the reasons stated below.

[23] RESPONSE TO ARGUMENTS: Applicants incorporate their arguments regarding the rejection of claims 19 and 40 under 35 USC 103(a) addressing the references of Thompson et al. and Minshull et al. Applicants argue the combination of references does not teach or motivate a skilled artisan to “normalize” the representation of organisms using naturally occurring DNA. Applicants argue the combined references are silent regarding normalizing the representation of DNA and screening a library containing a plurality of clones obtained from one or more organisms wherein each clone contains DNA from a single one of the donor organisms. Applicants argue that the cited references fail to teach the claim limitations. Applicants argue that even if one were motivated to combine the cited references, there is no reasonable expectation of success for practicing the claimed method. Applicants’ argument is not found persuasive.

The examiner hereby incorporates the response addressing applicants’ arguments regarding the rejection under 35 USC 102(b) and 35 USC 103(a) regarding the references of Thompson et al. and Minshull et al. In combination with the reference

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of Loveland et al., it is the examiner's position that Thompson et al. and Minshull et al. teaches all limitations of claim 41 particularly as Thompson et al. teach increasing the abundance of relatively rare species (column 40, bottom), which is in accordance with the "definition" of normalization as provided in the specification, and the use of naturally occurring DNA. As previously stated, the combination of references clearly teaches all limitations of the claims and, contrary to applicants' assertion, provides a reasonable expectation of success for practicing the claimed method. In view of applicants' failure to provide specific and/or convincing reasoning as to why the combination of references fails to teach, provide motivation for practicing, and a reasonable expectation of success for making the claimed invention, the rejection is maintained.

Claim Rejections - Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

[24] Claims 19-41 and 43-46 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2,

7-23, 26-28, 33-44, 47-49, 51, and 54-55 of US non-provisional application 09/848,095 the "095 application"). An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); and *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 19-41 and 43-46 of the instant application are generic to all that is recited in claims 1-2, 7-23, 26-28, 33-44, 47-49, 51, and 54-55 of the '095 application, *i.e.*, claims 19-41 and 43-46 of the instant application are anticipated by claims 1-2, 7-23, 26-28, 33-44, 47-49, 51, and 54-55 of the '095 application. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

[25] Claim 19 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of US non-provisional application 10/145,280 the "280 application"). An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); and *In re*

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Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 19 of the instant application is generic to all that is recited in claim 1 of the '280 application, *i.e.*, claims 19 of the instant application is anticipated by claim 1 of the '280 application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

[26] Status of the claims:

Claims 19-41 and 43-46 are pending.

Claims 19-41 and 43-46 are rejected.

No claim is in condition for allowance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Steadman, whose telephone number is (571) 272-0942. The Examiner can normally be reached Monday-Friday from 7:30 am to 5:00 pm. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Ponnathapura Achutamurthy, can be reached at (571) 272-0928. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Art Unit receptionist whose telephone number is (703) 308-0196.


David J. Steadman, Ph.D.

Primary Examiner

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